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Dräger medical
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Field Service Procedure

Test and Replacement of Cut-off Valve Assemblies Anesthesia

Revision C
5/3/04
SP00140

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TEST AND REPLACEMENT OF CUT-OFF VALVE ASSEMBLIES

NOTE:
Testing of the Cut-off Valve shall be performed at each Periodic Manufacturer's Certification (PMC) and also at the completion of a Cylinder Cut-off Valve replacement. Testing documentation shall be created by the service person and a copy distributed to the owner institution.

1 Replacement Procedure

1. Disconnect all pipeline hoses and turn the System Power Switch to ON.
2. Close all cylinder valves except one O2 valve.
3. Set the oxygen to 4 L/min.
4. Open the other gas flow control valves to drain pressure from the system.
5. Close the O2 cylinder valve.
6. Close the flow control valves and press and hold the O2 FLUSH button to drain oxygen pressure from the system.
7. Remove the table top from the machine.
8. Remove the original Cylinder Cut-off Valve Assembly. See Fig. 1 for typical location and tubing arrangement.
9. Carefully remove the fittings attached to the valve on the assembly.
10. Using a small amount of Loctite #271 (RED), install the fittings on the replacement assembly.
11. Install the replacement assembly in the machine and reinstall the table top.
12. Perform Section 2 Test Procedure.

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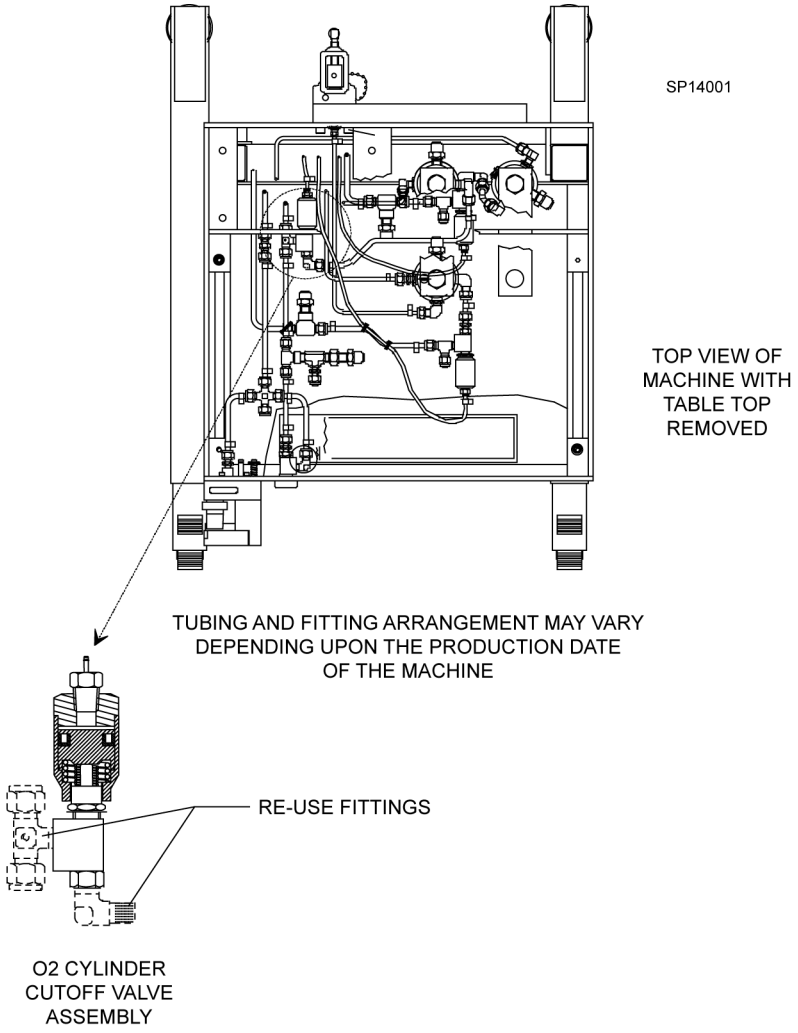
SP14001
TOP VIEW OF MACHINE WITH TABLE TOP REMOVED
TUBING AND FITTING ARRANGEMENT MAY VARY DEPENDING UPON THE PRODUCTION DATE OF THE MACHINE
RE-USE FITTINGS
O2 CYLINDER CUTOFF VALVE ASSEMBLY

Fig. 1 Typical Cylinder Cut-off Valve

2 Test Procedure

1. Turn the System Power Switch to STANDBY, if applicable.
2. Disconnect all pipeline supplies.
3. Open the O2 and N2O cylinder valves. Also open the Air cylinder if configured with an Air Cut-off Valve.
4. Verify all cylinders contain at least the minimum cylinder pressure. Replace any depleted cylinders before proceeding.

NOTE:
Minimum cylinder pressures are as follows:

- 1000 psi - O2, Air
- 600 psi - N2O

5. Turn the System Power Switch to ON.

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6. Set the Inspiratory flow control to maximum high and turn the Ventilator Switch to ON.
7. Set the oxygen flow to 10 L/min.
8. Verify that the oxygen flow is in the 7 L/min to 8 L/min range while the ventilator is running.
9. Press and hold the O2 FLUSH button while observing the O2 flowmeter and verify that the oxygen flow is in the 7 L/min to 8 L/min range.
10. If the oxygen flow in either of the above two steps drops below 7 L/min, replace the O2 Cut-off Valve Assembly.
11. Open the N2O flow control valve and verify the N2O flow can be adjusted to 10 L/min.
12. Close the N2O flow control valve.
13. If the previous test fails, replace the N2O Cut-off Valve Assembly.
14. If fitted with an Air Cut-off Valve Assembly, open the Air Flow Control Valve and verify the Air flow can be adjusted to 10 L/min.
15. Close the Air Flow Control Valve Assembly.
16. If the previous test fails, replace the Air Cut-off Valve.
17. Close all flow control valves.
18. Refer to the corresponding Technical Service Manual and perform the following PMC procedures on the machine:
    - High Pressure Leak
    - Flowmeters
    - Gas Concentrations
    - Oxygen Failure Protection Device
    - Final Check

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Test and Replacement of Cut-off Valve Assemblies — Service Procedure

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